

REMARKS

The indicated allowability of claims 1, 3, 5 - 7, 14 and 15 is acknowledged. Further, the objection to claims 10, 11 and 13 and the indication that such claims are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims is acknowledged. By the present amendment, such claims have been retained in dependent form since applicants submit that the base claim is allowable over the cited art as will be discussed below.

As to the apparent rejection of claims 2 and 4 under 35 USC 112, second paragraph, it being noted that only claim 4 is set forth in the stated rejection under 35 USC 112, although claim 2 is mentioned after the statement of the rejection, such rejection is considered to be overcome by the present amendment of the claims. More particularly, the points raised by the Examiner with respect to both claims 2 and 4 have been corrected such that applicants submit that claims 2 and 4 should now be considered to be in compliance with 35 USC 112, second paragraph, and since such claims do not stand rejected over the cited art, applicants submit that these claims should also now be in condition for allowance.

Turning first to an apparent rejection of claim 12 under 35 USC 102 over the patent to Dir, US 4,506,956, insofar as such a rejection was intended, applicants note that there is no statement of a ground of rejection based upon the statute. Rather, as indicated in paragraph 4 at pages 2 and 3 of the office action, there is only the statement that:

The indicated allowability of claim 12 is withdrawn in view of the newly discovered reference to US 4,506,956. Rejections based on the newly cited reference follow.

The reference discloses ... Therefore, the reference anticipates the claimed invention.

As is apparent, a rejection under 35 USC 102, while apparently be intended, is not set forth.

Insofar as such a rejection is intended, this rejection is traversed.

As to the rejection of claims 8 and 9 under 35 USC 102(b) as being anticipated by CAPLUS 1987: 449396, this rejection is traversed.

As to the requirements to support a rejection under 35 USC 102, reference is made to the decision of reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Turning first to the apparent rejection of claim 12 under 35 USC 102 based upon Dir US Patent No. 4,506,956, while the Examiner points to various features of Dir, the Examiner has not pointed out any disclosure in Dir of the recited features of claim 12 of "a liquid crystal display device having ... an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of substrates, said electrode structure being provided on one of said pair of substrates". This quoted structure for a liquid crystal display device as a structure different from the conventional liquid crystal display devices utilizing a vertical electric field which is obtained by applying, as shown in Fig. 1A representative of the prior art in Dir, an alternating current voltage between the transparent electrodes 16 formed on the opposing substrates. In accordance with Dir, such electric

vertical field application is utilized in the embodiments of Dir, as is apparent from Fig. 4 of this patent. In contradistinction, in accordance with the present invention, as illustrated in Fig. 1(b) of the drawings of this application, an electrode structure is formed on one of the substrates, the lower substrate, as illustrated with electrodes 1 and 4 which serve for generating the electric field having a component predominantly in parallel with one of the pair of substrates, with the electrode structure being provided on one of the pair of substrates as illustrated in Fig. 1(b) of the drawings of this application. Irrespective of the Examiner's comments concerning Dir, applicants submit that Dir does not disclose a liquid crystal display device having the recited structural feature and applicants submit that claim 12 patentably distinguishes over Dir in the sense of 35 USC 102 and 35 USC 103 such that claim 12 should be considered allowable thereover.

As to the rejection of claims 8 and 9 based upon the publication CAPLUS, the Examiner contends that "The reference discloses a liquid crystal display device, which has electric field, is parallel to the substrates. (emphasis added)

Turning to claim 8, applicants note that this claim recites the feature of "a liquid crystal display device having ... an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of substrates provided on one of said pair of substrates". Applicants submit that the quoted features of claim 8 and therewith its dependent claim 9, are not disclosed by CAPLUS in the sense of 35 USC 102. More particularly, irrespective of the Examiner's comments, CAPLUS is directed to liquid-crystal electric and magnetic field sensors and not to a liquid crystal display device, as claimed. Thus, CAPLUS does not anticipate the claimed invention of claim 8 and claim 9 in the sense of 35 USC 102 with respect to a liquid crystal display device. As indicated in the English language portion of CAPLUS provided by the Examiner, "both reflection and transmission type field sensors are prep'd. by using TN cells and optical fiber systems. When the substrate

surface of the cell is perpendicular to the field, the transmittance increases above the threshold of the field strength. On the other hand, when the surface is parallel to the field, the transmittance continuously increases according to the increase of the field covering the wide range." Thus, while the sensor of CAPLUS may be responsive in different manners to an applied field, there is no disclosure in CAPLUS of an internal electrode structure of the liquid crystal display device which is provided on one of the substrates for generating an electric field having a component predominantly in parallel with one of the pair of substrates.

Applicants submit that such a structure is not inherent in CAPLUS such that applicants' submit that claims 8 and 9 patentably distinguish over CAPLUS in the sense of 35 USC 102 and should be considered allowable thereover.

In view of the above amendments and and remarks, applicants submit that all claims present in this application should now be considered to be in compliance with 35 USC 112, and that all claims patent ably distinguish over the cited art and should be considered allowable thereover. Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 503.33612CX1), and please credit any excess fees to such deposit account.

Respectfully submitted,

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IN THE CLAIMS:

2. (Amended) A liquid crystal ~~composition~~ composite material according to claim 1, wherein X_2 is a cyano group.

4. (Twice Amended) A liquid crystal composite material adapted to be used in a liquid crystal layer of a liquid crystal display device having a pair of substrates with the liquid crystal layer interposed therebetween, and an electrode structure for generating an electric field having a component predominantly in parallel with one of said pair of said substrates;

wherein said liquid crystal composite material has a resistivity which is no greater than $1 \times 10^{13} \Omega \cdot \text{cm}$ and greater than $1 \times 10^9 \Omega \cdot \text{cm}$.